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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,059	07/11/2003	Brian J. Schwartz	EH-10937 (03-358)	4332
34704	7590	01/20/2006	EXAMINER	
BACHMAN & LAPOINTE, P.C.			SHAKERI, HADI	
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SUITE 1201			PAPER NUMBER	
NEW HAVEN, CT 06510			3723	

DATE MAILED: 01/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Tute

Office Action Summary	Application No.	Applicant(s)	
	10/618,059	SCHWARTZ ET AL.	
	Examiner	Art Unit	
	Hadi Shakeri	3723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13-16 and 18-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-16 and 18-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

Claim Objections

1. Claim 9 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Claim 9 recites for the coolant nozzle of claim 1 to be in combination of a machining tool making the claim improper.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 16-19 are finally rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claim 16, the phrase "at least one coolant outlet discharging a plurality of liquid coolant outlet steams" renders the claim indefinite because it is unclear how the embodiment for one coolant outlet discharges a plurality of streams? The claim is not rejected under 112, 1st paragraph at this time, for lacking sufficient support in the specification as originally filed, since the deficiencies appear to be of clarity rather than enablement.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

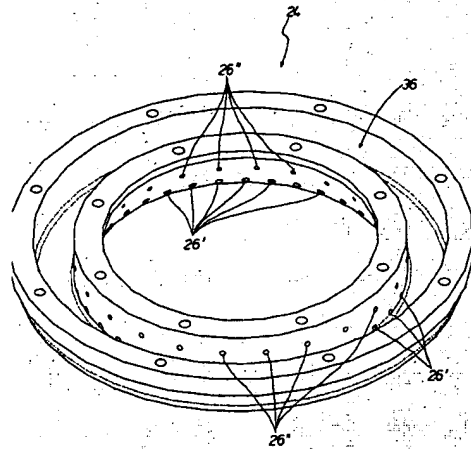
A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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6. Claims 10, 11 and 13-15 are finally rejected under 35 U.S.C. 102(e) as being anticipated by DE 202 16 396.

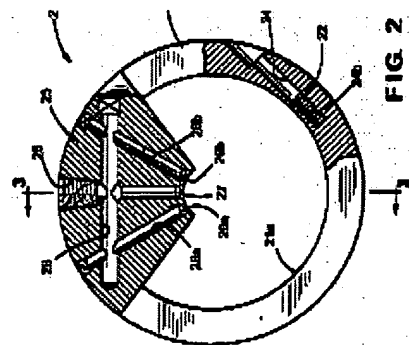
DE '396 discloses all of the limitations of claim 10, i.e., a coolant nozzle having at least one coolant inlet (24); a plurality of coolant outlet (26', 26'') oriented to discharge coolant obliquely (Fig. 11) arranged with circumferential spacing of no more than 72 degrees for each "adjacent" two outlets, wherein the nozzle further includes one or more passageways (36) defined by internal surface portions between the inlet and the outlet.



Regarding claims 11 and 13-15, DE '396 meets the limitations, i.e., common radial position at unique angle; not more coolant outlet than the one circumferentially positioned; 360 degrees.

7. Claims 10-11, 14-16, 20 and 21 (as best understood) are finally rejected under 35 U.S.C. 102(e) as being anticipated by Reitmeyer (6,471,573).

Reitmeyer discloses all of the limitations of claims 10, 16 and 20, i.e., a coolant nozzle having at least one coolant inlet (26); a plurality of coolant outlet (27, 29a, 9b) oriented to discharge coolant obliquely (Fig. 3) arranged with circumferential spacing of no more than 72 degrees for each "adjacent" two outlets, i.e., 28a-27 and 27-28b, wherein the nozzle further includes one or more passageways (28) defined by internal surface portions between the inlet and the outlet.



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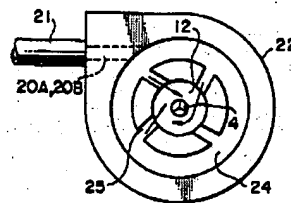
Regarding claims 11, 12, 14-16 and 22, Reitmeyer meets the limitations, i.e., common radial position at unique angle; not more coolant outlet than the one circumferentially positioned; angled outlet (Fig. 3); wherein more than one outlet is provided, thus workpiece blocking one, would still be covered by others; wherein the bit is elongated superabrasive.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-11, 13-16, and 18-24 (as best understood) are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Arai et al. in view of Perkins et al. (4,252,768).



Arai et al. meets all of the limitations of claims 1, 16 and 20, except for the method of forming the body used for the nozzle, the spacing between the outlets, type of machining tool (quill vs. drill bit). Although, method of forming the body is not germane to the patentability of the article being claimed, and choice of material is considered to be an obvious modification, Perkins et al. is cited which disclosed using sintered ceramic nozzle for its desired properties (03:35-43). It is also noted that method of forming an article not resulting in a structural difference is not germane to the issue of patentability. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Arai et al by using sintered ceramic as taught by Perkins et al. for its desired properties, e.g., durable, light...

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Regarding the number of outlets, and the size, Arai et al. indicates in col. 6, line 43 that the size and number of the apertures are not limited to the embodiments shown and can be set at desired values, and the size of the opening (12) obviously depends on the size of the tool. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have five passages and/or have opening of less than 3 cm, since it has been held that changing shape, dependent on work-piece parameters, involves only routine skill in the art. *In re Stevens*, 101 US PQ 284(CCPA1954).

Regarding claim 16, the narrative language, i.e., "discharging a plurality of...impacting obliquely..." lacking any structural limitations for the nozzle, e.g., "oriented to" is considered met. With regards to combination with a quill, and known quill having hemispherical head, the nozzle of Arai et al. in view of Perkins et al. is capable of being used in combination with a quill, thus the combination is considered obvious to one of ordinary skill in the art, depending on the workpiece and/or operational parameters.

Arai et al. in view of Perkins et al. and further modified in view of choice of material, combination with known tools, number and size of outlets meets all the limitations of claims 2-9, 11, 13-15, 18-19, and 21-24.

10. Claims 13, 19 and 22 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeyer.

Reitmeyer meets all of the limitations of above claims, except for the number of outlets, the size and the combination with bit having a doubly convex head, i.e., hemispherical, all obvious modifications to one of ordinary skill in the art depending on the intended use and/or workpiece parameters.

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11. Claims 1-9, 18, 15, 18, 23, and 24 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Reitmeyer in view of Perkins et al.

Reitmeyer in view of Perkins et al., modification in light of choice of material used, as indicated above in section 8, meets the limitations.

12. Claims 1-9, 16, and 18-24 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over DE '396 in view of Perkins et al.

DE '396 in view of Perkins et al. further modified in light of combination with known tools, depending on the intended use, as indicated above meets all the limitations.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Response to Argument

14. Applicant's arguments filed 11/10/05 have been fully considered but they are not persuasive.

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Claim 9 is still objected to for improper dependency. The parent claim recites a coolant nozzle but claim 9 recites for the nozzle to be in combination with a machining tool making it unclear whether the claim is dependent or independent. If the claim is independent, i.e., "a nozzle in combination..." the reference to "claim 1", renders it objectionable, if the claim is a dependent claim, then it fails to further limit the parent claim, i.e. "the nozzle".

Claims 16-19 are still indefinite, since the scope cannot be ascertained. It appears now that applicant is broadening the scope (per arguments under Remarks) to encompass embodiments not supported in the specification, i.e., "outlet having *complex* shape", however the scope is not clear therefore 112, 1st paragraph rejection is not applied as this point.

The arguments against DE '396 is that the outlets (26') (26") are at different radial positions, which fails to indicate what claim limitation is not met by either (26'), (26") or both for the parent claim 10. The limitations of now cancelled claim 12, i.e., that there are no more outlets in addition to the plurality of outlets, fails to read over the reference, whether (26'), (26") or both is defined or considered as the "plurality of outlets", with regards to Figs. 11 and 12 (both defining the plurality) or 8 and 9. The limitations of common radial position as recited in claim 11 is met by Figs. 8 and 9, where only one outlet (26) is shown.

The argument against Reitmeyer that the spacing between (29a) and (29b) is more than 72 degrees is not persuasive. Claim 10 recites for no adjacent two nozzles to be more than 72 degrees apart. This is met by (29a) and (29b) firstly because these nozzles are not considered "adjacent", since "adjacent" is defined by "near", and no limitation is read into the claims and secondly even if there are considered "adjacent", the limitation is met by the angle defined between the two in the clockwise direction. With regards to claims 21, and 22 the limitations attributed to the bit (not part of the nozzle being claimed), even though is met by the reference, do not further limit the nozzle to read over the reference, since there are not structures to define

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the bit or the quill over the reference. With regards to claim 14 and 15, these claims only recite in a narrative way the function of the nozzle, no structures claimed to read over the prior art of record, however, even the narrative language is met by the nozzle as they do provide essentially total coverage of the bit, since the bit is rotating, and there are two redundant nozzles.

The argument that somehow, the pressure foot of Arai does not meet the coolant nozzle, fails to indicate what limitations are not met. The pressure foot of Arai is used as a coolant nozzle by cooling the tool. The argument that Perkins discloses a sandblasting nozzle and cannot be combined with the pressure foot of Arai and that there is no motive, is not persuasive. Arai's nozzle is modified in view of choice of material. Using sintered ceramic for a nozzle, is taught by Perkins, applying it to a coolant nozzle for its desired properties, e.g., light, durable, strong, is considered modification well within the knowledge of one of ordinary skill in the art.

The argument about the method of forming the nozzle is not persuasive. Applicant argues that the "nozzle" is of single unitary structure, and that this unitary structure, of course excludes other components such as fittings, fasteners and the like. And further argues Perkins only teaches using ceramic for the core and thus teaches away from using ceramic for a single unitary structure of nozzle. This is not found persuasive, because the teaching of Perkins is for the use of ceramic for its properties as applied, e.g., to claim 1. With regards to claim 2, the method of forming the device is not germane to the issue of patentability of the device itself. Perkins is not utilized to reject claim 2 with regards to the method of forming.

The argument that materials other than ceramic may be used fails to indicate, why Arai in combination with Perkins, i.e., a sintered ceramic nozzle does not meet the claim as now recited. The argument that the body is single unitary piece, is not persuasive, since the core

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may be defined by the "body" and that Applicant is reading more into "single unitary piece" that the broadest definition, which met by the prior art of an integral, or unitary piece (forming a unit).

The argument regarding claim 5 is not persuasive, since figure 1 clearly shows streams directed towards the axis of the bit.

The argument regarding claim 15 is not persuasive, since Arai discloses more than one nozzle around the bit (a rotating bit) and the argument that Arai has different purpose fails to indicate what limitations are not met.

The argument regarding claim 24 is not persuasive, since the nozzle cannot be further limited by the fluid being sent through it, the nozzle of prior art is capable of meeting the language, i.e., using an oil-based coolant.

The argument that modification with regards to number of outlets, the size and the combination with a quill is all hindsight is not persuasive. These modifications are all considered well within the knowledge of one of ordinary skill in the art depended on workpiece and/or operational parameters. Changing the number of a prior art patent, e.g., from 3 to 5 is not considered novel and one, which would require undue experiments.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or

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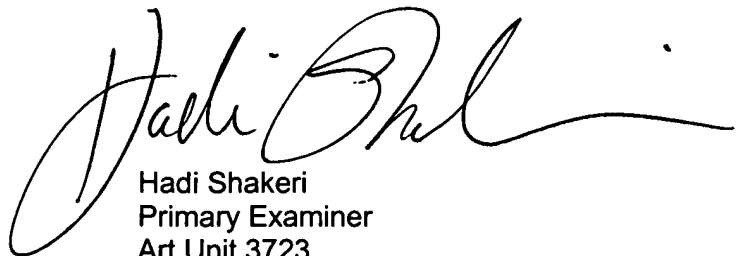
modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, using ceramic for its desired properties is the motive, since Perkins teaches the use of ceramic in nozzles, where, e.g., high strength is required.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hadi Shakeri whose telephone number is 571-272-4495. The examiner can normally be reached on Monday-Friday.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hadi Shakeri
Primary Examiner
Art Unit 3723
January 17, 2006